

cagctacatg	ccattaatct	ggaaggaacg	ggcaggaag	ccaccatgca	aacaaccagg
agctcctgcc	ccggcagccc	cccagatact	gaggatggct	gggagcccat	cctatgcagg
ggagagatca	acttcggagg	gtctgggaag	aagcgaggca	agtttgtgaa	gggtccaagc
agtggtggccc	ccctctgtgt	ttttgaactc	ctgtccaccg	atgtggcacct	gccagccccc
aacctggtgg	tgtccctggt	gggtgaggaa	cgacctttgg	ctatgaagtc	gtggcttcgg
gatgtcctgc	gcaaggggct	ggtgaaagca	gctcagagca	caggtgcctg	gatcctgacc
agtgccctcc	acgtgggctc	ggcccgccat	gttggaacaag	ctgtacgtga	tcactctctg
gctagcacat	ccaccaagat	ccgtgtagt	gccatcgga	tggctctctt	ggatcgaaat
cttcaccgtc	aacttctaga	tgggtgtccac	caaaaggagg	atactcccat	ccactaccca
gcagatgagg	gcaacattca	gggacccttc	tgcccccctg	acagcaatct	ctcccacttc
atccttgtgg	agtcaggcgc	ccttgggagt	gggaacgacg	ggctgacaga	gctgcagctg
agcctggaga	agcacatctc	tcagcagagg	acaggttatg	ggggcaccag	ctgcatccag
atactgttcc	tttgctgtt	ggtcaatggt	gaccccaaca	ccctagagag	gatttccagg
gcagtggagc	aggctgcccc	atggctgctc	ctggcaggtt	ctggtggcat	tgctgatgta
ctcgtctccc	tggtgagcca	gcctcatctc	ctggtgcccc	aggtggctga	gaagcagttc
agagagaaat	tcgccagcca	gtgtttctct	tggaagacca	ttgtacactg	gacagagctg
ttacagaaca	ttgtgtgaca	ccccacactg	ctcacagtat	atgacttcga	gcaggagggt
tcggaggacc	tggacactgt	catcctcaag	gcacttgtga	aagcctgcaa	gagccacagc
caagaagccc	aagactacct	agatgagctc	aagttagcag	tggcctggga	tcgcgtggac
attgccaaga	gtgaaatctt	caatggggac	gtggaatgga	agtcctgtga	cttggaagag
gtgatgacag	atgccctcgt	gagcaacaag	cctgactttg	tcgcctctt	tgtggacagc
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tcgcccaaga	gcctcctctt	tgaactgctg	cagcgtgaag	atgaggagtt	taggctgaca
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ctccacgagg	tctcccgctg	actcaaaagc	ttcctgcatg	acgcctgcgg	tggtctctac
caggaggggc	gcaggatgga	ggagagagg	ccacctaaag	ggcccgagg	ccaggaaagt
ctgccagacc	tcagtaggaa	gagtgaagac	ccttgagggg	acctgttctt	ctgggctgtg
ctgcagaatc	gttatgagat	ggccacatac	ttctggggca	tgggcccggga	gggtgtggct
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gtggcccgca	ccatgcgtga	ggccaagtat	gagcagctgg	ccctggatct	tttctcagag
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agcaggacca	cgctcctgca	cctggccact	gaagctgatg	caaaaggcctt	tttgcctcat
gacggtgtgc	aagcattcct	gaccaagatc	tggtggggag	acatggccac	aggcacaccc
atcctacggc	ttctgggtgc	cttcacctgc	ccagccctca	tctacacaaa	cctcatctcc
ttcagtggag	atgccccgca	gaggatggac	ctagaagatc	ctgaggagcc	agacagcttg
gatatggaaa	agagcttctt	atgcagccgg	ggtggccaat	tggagaagct	aacagaggca
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ttctggggcg	ttctgtgtac	tgtgttctgt	gggaagtgtg	ctatgtactt	cgcattctct
ttctgtgtca	cctatgtctt	gctgggtgac	ttcaggccac	caccccaggg	gccctctgga
tccgaggtta	ccctctattt	ctgggtgttc	acactggtgc	tggaggaagt	ccgacagggc
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tggacaagt	gtgacatggt	ggccatcttc	ctgttcattg	tgggagtcac	ctgtagaatg
gtgccctcgg	tgttttaggc	tggcaggacc	gttctggcca	ttgacttcat	ggtgttcaca
cttcggctca	tcacactctt	tgtatttcac	aagcagttgg	gtctaaagat	catcattgta
gagcgaatga	tgaaggatgt	cttctttttc	ctcttcttcc	tgagcgtagt	ctgtgtggcc
tatggtgtga	ccactcaggc	cctgctgcat	ccccatgatg	gccgttttga	gtggattttc
cgcgctgtgc	tatacagggc	ttacctgcag	atctttgggg	aaatccctct	ggatgaaatt
gatgaggctc	gtgtgaaact	ttctcttcac	ctctgtctgc	tggaaagctc	ggcttctctg
cctaattctct	atgccaaactg	gctgtgcatt	ctctgtctgg	ttaccttctt	gcttgtcact

FIG. 1A

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aatgtgctgc	tcatgaaact	tctgatcgcc	atgttcagct	acacattcca	ggtggtgcaa
ggcaatgcag	acatgtttctg	gaagtttcaa	cgctaccacc	tcacgttga	ataccatgga
agaccagctc	tggccccgcc	cttcacacctg	ctcagccacc	tgagcctggt	gctcaagcag
gtcttcagga	aggaagccca	gcataagcga	caacatctgg	agagagactt	gcctgacccc
ttggaccaga	agatcattac	ctgggaaacg	gttcaaaagg	agaacttctc	gagtaccatg
gagaacgga	ggagggacag	cgagggggag	gtgctgagga	aaacggcaca	cagagtggac
ttgattgcca	aatacatcgg	ggggctgaga	gagcaagaaa	agaggatcaa	gtgtctggaa
tcacaggcca	actactgtat	gctcctcttg	tcctctatga	cggatacact	ggctccagga
ggcacctact	caagctctca	gaactgtggt	tgcaggagtc	agccagcctc	tgctagagac
agggagtacc	tagagtctgg	cttgccaccc	tctgacacct	gaaatggaga	aaccacttgc
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cagcagcccc	aagaaatggt	cttcaaggcc	ttgtacaga	tcacttcttg	gacatccctt
cctaagagaa	tgaactcat	gtctttggca	tctattcggg	agcctcagaa	gtatcctctc
cagcaggcca	agatttttca	tgtccacta	aagctttcac	tggcttgac	tggaagactg
gatctggcca	agtcctacat	aggacacat	ctgcctggat	ggggctattt	aggtctaacc
cctgtcttac	cctgagttcc	taagaagcca	acctcttaaa	cactaggttt	ctttctgacc
cctgaccac	tcattagctg	accagctcct	agagggcagg	actcagatct	attgtaatta
cctcccatct	ttcaccctcc	acagcattat	ctgtctgac	attctggcag	aaacccaag
atattgctca	agggtaacca	atgctacttt	actttctata	aagcctgtag	accacctcaa
aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa
aaaaaaaaaa	aaaaaaa				

FIG.1B

MQTTQSCPSGPPDTEGWEPI LCRGE INFGSGKKRGKFWKVPSSVAPSVL FELL TEMH PAPNLVSLVGEERPLAMKSWLRDVL R  
 KGLVKAQSTGAMILTSALHVGLARHVGOAVRDHSLASTSTKIRVWAIGHASLDRI LHRQLDGVHQKEDTPIHYPADEGNTQGPLCPL  
 DSNLSHFILVESGALSGNDGLTEIQLSLEKHSQORTGYGGTSCIQIPVLCILVNGDPNTLERISRAVEQAAPWLLIAGSGGIADVLA  
 ALVSQPHLLVPOVAEQFREKFSECF SWEATVHMTTELLQNI AHPHLLTVYDFEQEGSEDLTVILKALVKACKSHSQEAQDYLDLKL  
 LAVANDRVIAKSEIFNGDVENKSCDLEEWITDALVSNKPDFVRLFVDSGADMAEFLTYGRLOQLYHSVSPKSLLFELLQRKHEEGRLT  
 LAGLGAQQARELP IGLPAFSLHVSRLVKDFLHDACRGFYQDGRNMEERGPKRAGQKMLPDL SRKSEDPWRDLFLWAVLQNRYE MATY  
 FWAMGREGVAALAAACKIITKEMSHLEKEAEVARTMREAKYEQLADLDFSECYGNSEDRAFLVVRNHSWRTTCLHLATEADAKAFFA  
 HDGVQAF LTKIWWGDMATGTPILRLGACTCPAL IYTNLISFSEDAPQRMDLEDQEPDSLMEKSF LCSRGGQLEKITEAPRAPGDLG  
 PQAAFLLTWKRFKMGAPVTFLGNVVMYFAFLFLFTYLLVDFRPPQPGSGSEVTL YFWVFTLVLEEIRQGFTEDETHLVKKFTLYV  
 EDNWNKCDMVAFLFIVGVTCRMVPSFEAGRTVLATDFWFTLRIHFAIHKQLGPKIIVVERMKDVFFLFSLWLVAYGVTTQ  
 ALLHPHDGRLEIFRRVLYRPLYQIFGQIPLDEIDEARVNCSLHPILLLESSASCPNL YANWLVI LLTFTLVTVWLLMNL IIAFVSYT  
 FQVWQGNADMFWKFORYHL IVEYHGRPALAPPFILLSHLSLVLKQVRKEAQHKRQHLERDLPDLQDKIITWETVQKENFLSTMEKRR  
 RDSEGEVLRKTAHRVDLIAKYIGGLREQEKRIKCLSQANCYMLLSSMTDTLAPGGTYSSSQNGCGRSQPASARDREYLESGLPPSDT

FIG.2

atgcaggatg	tccaagggccc	cggtcccgga	agccccgggg	atgctgaaga	ccggcgggag
ctgggcttgc	acagggggcga	ggtcaacttt	ggagggtctg	ggaagaagcg	aggcaagttt
gtacgggtgc	cgaaggaggt	ggccccgtct	gtgctctttg	acctgctgct	tgtctgagtg
cacctgcggg	cccccaacct	ggtggtgtcc	ctggtgggtg	aggagcagcc	tttccgcatg
aagtctctggc	tgcgggatgt	gctgcgcaag	gggctggtga	aggcggctca	gagcacagga
gcctggatcc	tgaccagtgc	cctccgcgtg	ggcctggcca	ggcatgtcgg	gcagggcgtg
cgcgaccact	gctgtggccag	cacgtccacc	aaggtccgtg	tggttgcgtg	cgcatgggcc
tcgctggggc	gcgtctctga	ccgcgcgatt	ctggaggagg	cccaggaggga	ttttctctgt
cactaccctg	aggatgacgg	cggcagccag	ggccccctct	gttcaactgga	cagcaacctc
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gatgtgcttg	ctgccctagt	gaaccagccc	caacctctgg	tgccccagggt	ggccgagaag
cagtttaagg	agaagttccc	cagcaagcat	ttctcttggg	aggacatcgt	gcgctggacc
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ggccaggaag	gtgtggcagc	cgcactggcc	gcctgcaaaa	tcttcaaaga	gatgtcgac
ctggagacgg	aggccgaggc	ggcccagacc	acgcgcgagg	cgaaatacga	gcggctggcc
cttgacctct	tctccgagtg	ctacagcaac	agtgaggccc	gcgccttcgc	cctggtggtg
cgccggaacc	gctgctggag	caagaccacc	tgcctgcacc	tggccaccga	ggctgacgcc
aaggccttct	tgccccacc	cggcgttcag	gccttctctg	ccaggatctg	gtggggggag
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ctgtatgtgg	gggacaactg	gaacaagtgt	gacatggtgg	ccatcttctc	gttcatctgt
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gacttcatgg	tgttcacgct	gcggctgac	catatctttg	ccatacacaa	gcagctgggc
ccaagatca	tcgtggtaga	gcgcatgatg	aaggacgtct	tcttcttctc	cttctttctg
agcgtgtggc	ctgtggccta	cgtgttcacc	accaggcgc	tgtctgaccc	ccatgacggc
cgcttgaggt	ggatcttccg	ccgggtgctc	taccggccct	acctgcagat	cttcggccag
atccactggt	acgagattga	tgaagcccg	gtgaactgct	ccaccacacc	actgctgtcg
gaggactcac	catctgcgcc	cagcctctat	gccaaactgg	tggcttcac	ctctgtggtc
accttctctg	tgttcaccaa	tgtgctgctc	atgaacctgc	tcatcgccat	gttcagctac
acgttccagg	tgtgtcaggg	caacgcagac	atgttctgga	agttccacg	ctacaacctg

FIG.3A

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attgtggagt accacgagcg ccccgccctg gcccgccct tcatctgct cagccacctg  
 agcctgacgc tccgccgggt cttcaagaag gaggtgagc acaagcggga gcacctggag  
 agagacctgc cagaccccc ggaccagaag gtcgtcacct gggagacagt ccagaaggag  
 aacttctga gcaagatgga gaagcggagg agggacagcg agggggagg gctgcggaaa  
 accgcccaca gagtggactt cattgccaag tacctcgggg ggctgagaga gcaagaaaaag  
 cgcatacaagt gtctggagtc acagatcaac tactgctcgg tgctcgtgtc ctccgtggct  
 gacgtgctgg cccaggggtg cggcccccg agctctcagc actgtggcga ggggaagccag  
 ctggtggctg ctgaccacag aggtggttta gatggctggg aacaaccgg ggctggccag  
 ctcctcctcg acacatga

FIG.3B

MODVQGRPG SPGDAEDRRE LGLHRGEVNF GSGGKKRGKF VRVPSGVAPS  
 VLFDLLAEW HLPAPNLVVS LVGEEQPFAM KSWLRDVLRK GLVKAAQSTG  
 AWILTSALRV GLARHVQAV RDHSLASTST KVRVAVGMA SLGRVLHRRRI  
 LEEAQEDFPV HYPEDDGGSQ GPLCSLDSNL SHFILVEPG PGKGDGLTEL  
 RLRLEKHISE QRAGYGGTGS IEIPVLCLLV NGDPNTLERI SRAVEQAAPW  
 LILVSGSGIA DVLAALVNQP HLLVPKVAEK QFKEKFPSKH FSWEDIVRWT  
 KLLQNIISHQ HLLTVYDFEQ EGSEELDTVI LKALVKACKS HSQEPQDYLD  
 ELKLAVAWDR VDIKSEIFN GDVEWKSDDL EEMVDALVS NKPEFVRLFV  
 DNGADVADFL TYGRLQELYR SVSRKSLFFD LLQRKQEEAR LTLAGLGTQQ  
 AREPPAGPPA FSLHEVSRVL KDFLQDACRG FYQDGRPGDR RRAEKGPAKR  
 PTGQKWLLDL NQKSENPRWD LFLWAVLQNR HEMATYFWAM GQEGVAAALA  
 ACKILKEMSH LETEAEEARA TREAKYERLA LDLFSECYSN SEARAFALLV  
 RNRNRCSTKT CLHLATEADA KAFFAHDGVQ AFLTRIWGWD MAAGTPILRL  
 LGAFLLCPALV YTNLITFSEE APLRTGLEDL QDLDSLDTEK SPLYLQSRV  
 EELVEAPRAQ GDRGPRAVFL LTRWRKFWGA PVTVFLGNV MYFAFLFLFT  
 YVLLVDFRPP PQGPSGPEVT LYFWFTLVV EEIRQGFFTD EDTHLVKKFT  
 LYVDGNWNKC DMVAIFLFIV GVTCRMPSA FEAGRTVLAM DFMVFTLRLI  
 HIFAIHKQLG PKIIVVERMM KDVFFFLFFL SVWLVAVGVT TQALLHHPHDG  
 RLEWIFRRVL YRPLYQIFGQ IPLDEIDAR VNCSTHPLLL EDSPSCPSLY  
 ANWLVIILLV TFLLVTNVLL MNLLIAMFSY TFQVQGNAD MFWKFQRYNL  
 IVEYHERPAL APPFILLSHL SLTLRRVFKK EAEHKREHLE RDLDPDLQK  
 VVTWETVQKE NFLSKMEKRR RDSEGEVLRK TAHRVDIFAK YLGLLREQEK  
 RIKCLESQIN YCSVLVSSVA DVLAQGGGPR SSQHCGECSQ LVAADHRGGL  
 DGWEQPGAGQ PPSDT\*

FIG.4

[illegible][illegible][illegible]

## Classification and Secondary Structure Prediction of Membrane Proteins

<http://azusa.proteome.bio.tuat.ac.jp/sosui/>

Orientation of the N-terminus of	mTrp8:	IN		
Number of transmembrane helices of	mTrp8:	6		
Position of transmembrane helices of	mTrp8:	helix	begin	end
		1	732	754
		2	769	792
		3	807	829
		4	839	863
		5	870	893
		6	955	977

Orientation of the N-terminus of	hTrp8:	IN		
Number of transmembrane helices of	hTrp8:	6		
Position of transmembrane helices of	hTrp8:	helix	begin	end
		1	733	755
		2	770	792
		3	807	829
		4	843	863
		5	873	893
		6	955	977

FIG.6A

## HYDROPHOBICITY PROFILE OF mTrp8 (MADE WITH DNAMAN SOFTWARE)

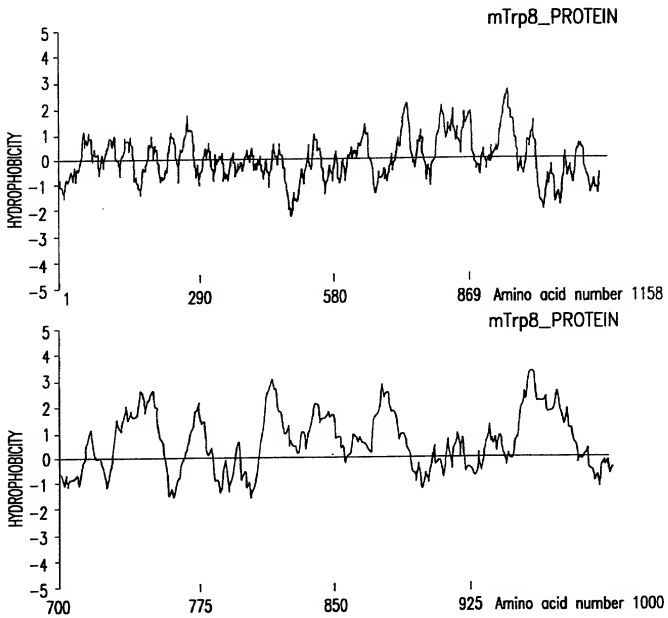


FIG. 6B



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HYDROPHOBICITY PROFILE OF hTrp8 (MADE WITH DNAMAN SOFTWARE)

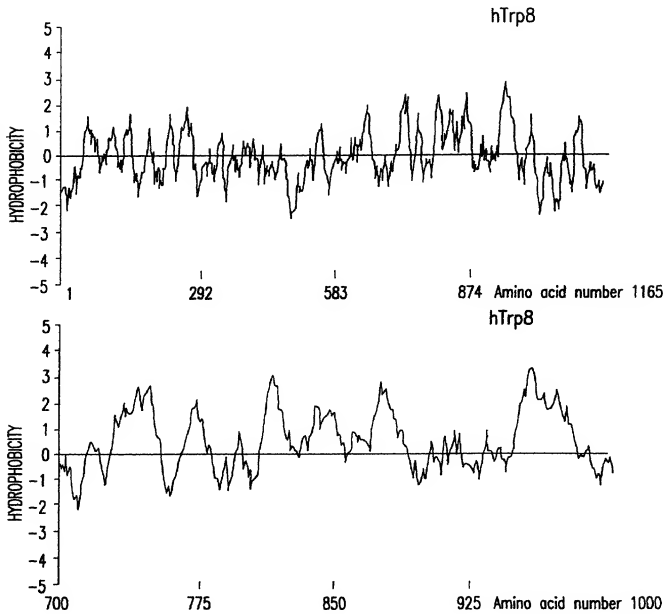


FIG. 6C

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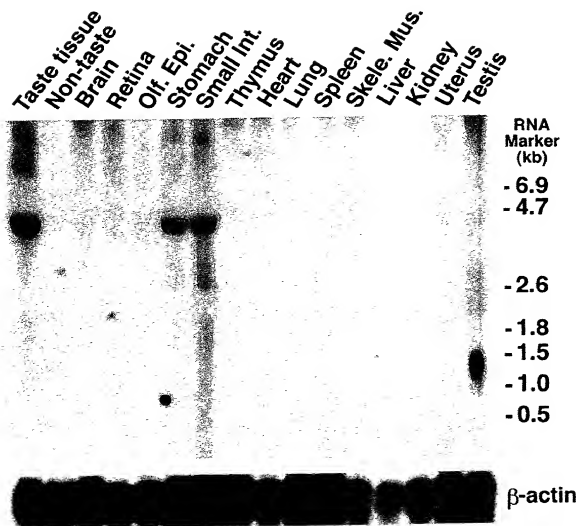


FIG.7



FIG.8A



FIG.8E



FIG.8B



FIG.8C



FIG.8D



FIG. 9A



FIG. 9B



FIG. 9C



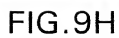
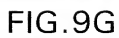
FIG. 9D



FIG. 9E



FIG. 9F



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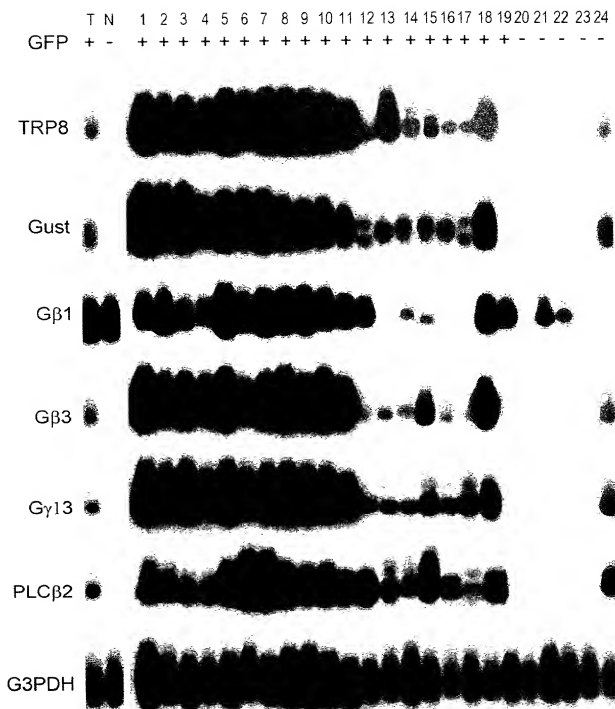


FIG.10

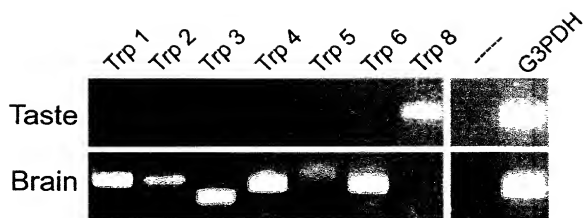


FIG. 11

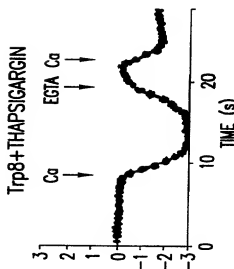


FIG. 12A

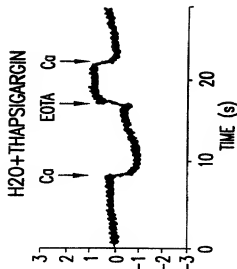


FIG. 12C

I-V RELATIONSHIP IN Trp8 INJECTED OOCYTES

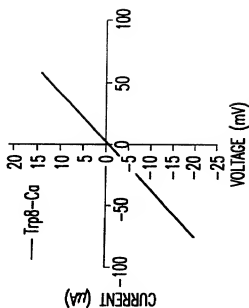


FIG. 12B

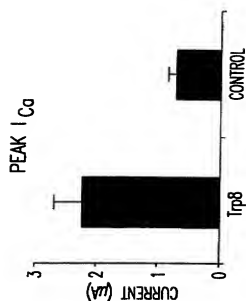


FIG. 12D



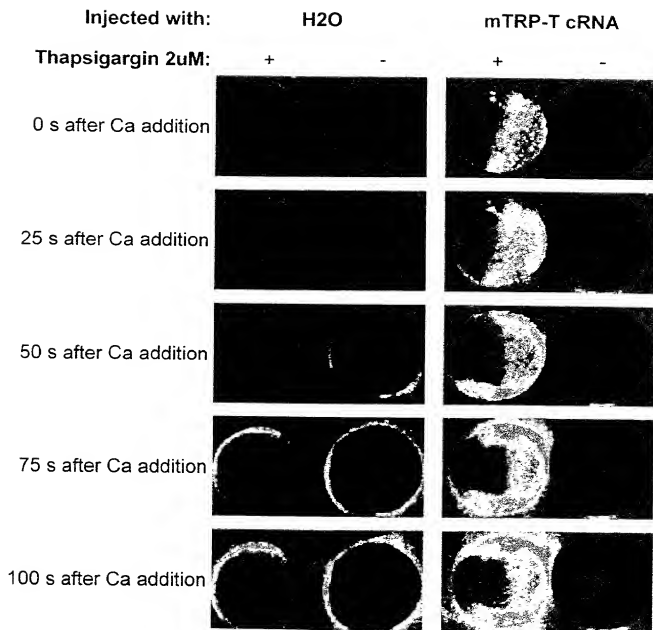


FIG.13

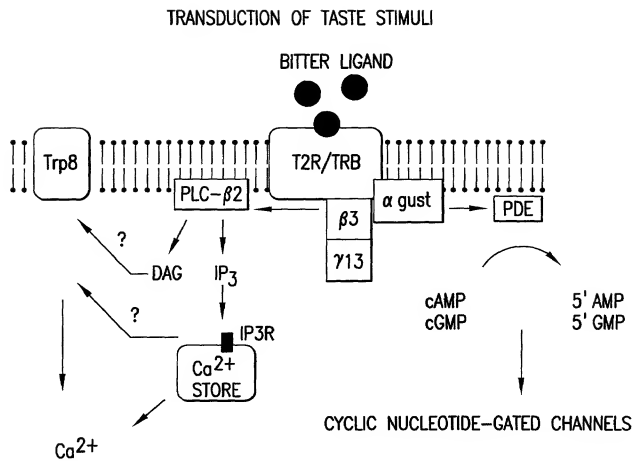


FIG. 14